

REMARKS

Claims 1-20 are pending, of which:

claims 1-11 are withdrawn from consideration
claims 12-15, 17-20 are rejected
claim 16 is objected to

Preliminary Matters

Claims 1-11 are withdrawn from consideration, as being drawn to a non-elected species.

Claims 1-11 are cancelled herewith.

There is no brief description of Figures 1C and 1D.

Figures 1C and 1D are cancelled herewith.

Drawing Correction

Figures 3B, 3C and 3D are corrected.

The expanding segment at the top is "328", not "320".

At page 16, lines 1-4

The biasing members 338 are disposed at axially spaced apart positions about the spindle 308, and are suitably in the form of rubber bands extending through corresponding holes 342a, 343a and 342b 343b in each of the ramp elements 348.

The holes at the top are "343a" and "343b", not "342a" and "342b".

"342a" and "342b" correctly refer to the radially-extending grooves (page 14, line 14)

The axis 304 was missing from the illustration.

Claim 14

Claim 14 is rejected under 35 USC 112, second paragraph.

Claim 14 is amended herewith.

Statutory Grounds of Rejection

Claims 12-15 and 17-19 are rejected under 35 USC 102(b) as being anticipated by Gazuit (US 3,971,694) or Leblond (3,547,733).

Claim 20 is rejected under 35 USC 103(a) as being unpatentable over Leblond in view of Becker.

Traversing the Rejections

Applicant chooses to cancel rejected claim 12, without prejudice. Claims depending therefrom (other than claim 16, rewritten) are amended to depend from claim 16 rewritten.

Allowable Subject Matter

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 16 is amended to be in independent form.

Remaining dependent claims are amended to depend from amended claim 16.

A key feature of claim 16 is the grooves on the flanges for radially guiding the support elements. Claim 16, as filed (and as amended herewith) is based on claim 12 which has guide rings and overlapping linkage mechanism.

page 20, lines 16-26

Each expanding segment 428 has a support element 448 associated therewith. (For 24 expanding segments, there are 24 base members.) The support element 448 is essentially a flat planar element having four edges (sides) - a top edge for supporting the expanding segment 328, a first side edge which rides in the groove 442a of a given groove pair, and a second side edge which rides in the groove 442b of the given groove pair. The support element 448 also has a bottom edge, but the shape of that edge is of no particular importance (as contrasted with the bottom edge ramp surface of the ramp element 348). Preferably, the support element 448 is separate from the expanding segment 428, but it is within the scope of the invention that it is integrally formed therewith. In the case that the support element 448 is not formed integrally with the expanding segment 428, the expanding segment 428 may be attached in any suitable manner to the support element 448.

Newly-presented claim 21.

21. Tire building drum, according to claim 16, wherein:
the support element is formed integrally with the corresponding expanding segment.

page 14, lines 22-32

Each expanding segment 328 has a ramp element 348 associated therewith. (For 24 expanding segments 328, there are 24 ramp elements 348.) The ramp element 348 is essentially a flat planar element having four edges (sides) - a top edge for supporting the expanding segment 328, a bottom "ramped" edge which functions as a ramp surface for being acted upon by two movable wedge elements 358 (described in greater detail hereinbelow), a first side edge which rides in the groove 342a of a given groove pair, and a second side edge which rides in the groove 342b of the given groove pair. Preferably, the ramp element 348 is separate from the expanding segment 328, but it is within the scope of the invention that it is integrally formed therewith. In the case that the ramp element 348 is not formed integrally with the expanding segment 328, the expanding segment 328 may be attached in any suitable manner to the ramp element 348.

Here it may be seen that the ramp element 348 functions in the manner analogous to that of the support element 448, but in an embodiment which uses a mechanism which is other than the overlapping linkage mechanism of claim 12. It rides in (is guided by) grooves 342a,b. The support element 448 rides in grooves 442a,b. The Figure 3 conical embodiment was non-elected in favor of the pending Figure 4 overlapping linkage embodiment. Nevertheless, certain concepts are generic, and inventive.

Newly-presented claim 22 is similar to claim 16, but without specifically requiring the guide rings and overlapping linkage mechanism of the Figure 4 embodiment.

22. (new) A tire building drum having an axis and a centerplane intersecting the axis, comprising:

a plurality of axially extending, circumferentially spaced-apart expanding segments, each of said expanding segments being expandable from a first radius in a collapsed condition of said drum to a second radius in an expanded condition of said drum;

a pair of flanges centered about the axis at a fixed distance from one another;

a plurality of support elements, each supporting an expanding segment, disposed between the flanges and radially moveable between the flanges;

in each flange, a plurality of grooves disposed on an inner surface thereof and extending radially from the axis, for radially guiding the plurality of support elements.

Newly-presented claims 23 and 24 depend from claim 22, and are comparable to claims 17 and 20, respectively.

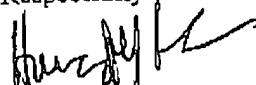
CONCLUSION

Favorable examination and consideration are respectfully requested.

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Respectfully submitted,



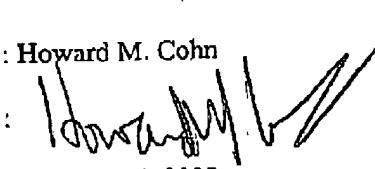
Howard M. Cohn
Reg. No. 25,808

Howard M. Cohn, Patent Attorney LLC
21625 Chagrin Blvd. Suite 220
Cleveland, Ohio 44122
(216)752-0955 phone
(216)752-0957 fax

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